

**List of Patents and Publications For  
Applicant's Information Disclosure  
Statement**

Serial No.: 10/649,305  
**Applicant(s):** Edwin A. Suominen  
**Group:** 2617  
**Filed:** August 25, 2003

**U.S. PATENT DOCUMENTS**

Examiner <u>Initials</u>	Document <u>Number</u>	Date	Name	Class	Subclass	§ 102(e) Date*
<i>*provided only for patents issued less than one year before applicant's earliest claimed filing date.</i>						
SF	A 6,073,000	06/02	Shinohara	455	310	07/96
	B 5,974,306	10/99	Hornak et al.	455	323	08/97
	C 5,950,119	09/99	McGeehan et al.	455	302	09/97
	D 5,887,247	03/99	Baltus et al.	455	277.2	11/97
	E 5,875,212	02/99	Fleek et al.	375	329	10/94
	F 5,828,955	10/98	Lipowski et al.	455	324	08/95
	G 5,826,180	10/98	Golan	455	302	08/94
	H 5,815,529	09/98	Wang	375	285	04/96
	I 5,811,972	09/98	Thompson et al.	324	338	03/94
	J 5,809,090	09/98	Buternowsky et al.	375	347	03/96
	K 5,802,463	09/98	Zuckerman	455	208	08/96
	L 5,784,418	07/98	Skyes et al.	375	347	04/95
	M 5,784,414	07/98	Bruekers et al.	375	324	09/95
	N 5,761,615	06/98	Jaffee	455	314	05/95
	O 5,758,274	05/98	Vu et al.	455	246.1	03/96
	P 5,742,274	04/98	Yoshida et al.	327	113	09/95
	Q 5,734,976	03/98	Bartschi et al.	455	333	03/95
	R 5,715,529	02/98	Kianush et al.	455	266	05/93
	S 5,696,796	12/97	Poklemba	375	316	06/95
	T 5,682,099	10/97	Thompson et al.	324	338	06/95
	U 5,640,698	06/97	Shen et al.	455	323	06/95
	V 5,619,206	04/97	Cole, Jr. et al.	342	37	11/95
	W 5,588,025	12/96	Strolle et al.	375	316	03/95
	X 5,548,244	08/96	Clewler	329	318	11/94
	Y 5,528,633	06/96	Halik et al.	375	326	06/94
	Z 5,461,643	10/95	LaRosa et al.	375	329	04/93
	AA 5,438,329	08/95	Gastouniotis et al.	340	870.02	
	AB 5,402,449	03/95	Schultes et al.	375	94	
	AC 5,376,894	12/94	Petranovich	329	306	
	AD 5,375,146	12/94	Chalmers	375	103	

Examiner: Eliza M. AtteyDate Considered: 4/3/06

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 Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicants.

**List of Patents and Publications For  
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Serial No.: 10/641,315  
 Applicant(s): Edwin A. Suominen  
 Group: 2617  
 Filed: August 25, 2003

**U.S. PATENT DOCUMENTS**

Examiner <u>Initials</u>	Document <u>Number</u>	Date	Name	Class	Subclass	§ 102(e) Date*
<i>*provided only for patents issued less than one year before applicant's earliest claimed filing date.</i>						
SJ	AE 5,355,513	10/94	Clarke et al.	455	20	
	AF 5,341,107	08/94	Bijker et al.	329	337	
	AG 5,315,425	05/94	Van Deventer et al.	359	153	
	AH 5,249,203	09/93	Loper	375	97	
	AI 5,230,099	07/93	Loper	455	324	
	AJ 5,214,796	05/93	Gorrie et al.	455	326	
	AK 5,142,553	08/92	Rosenkranz	375	75	
	AL 5,125,008	06/92	Trawick et al.	375	349	
	AM 5,121,070	06/92	Tomita	329	304	
	AN 5,010,399	04/91	Goodman et al.	358	85	
	AO 5,003,621	03/91	Gailus	455	324	
	AP 4,994,769	02/91	Kishi	332	170	
	AQ 4,992,736	02/91	Stormont et al.	324	309	
	AR 4,965,853	10/90	Barnard	455	209	
	AS 4,953,182	08/90	Chung	375	97	
	AT 4,944,025	07/90	Gehring et al.	455	207	
	AU 4,914,408	04/90	Voorman	333	167	
	AV 4,884,265	11/89	Schroeder et al.	370	70	
	AW 4,864,643	09/89	French et al.	455	302	
	AX 4,859,960	08/89	Standford et al.	329	126	
	AY 4,803,700	02/89	Dewey et al.	375	77	
	AZ 4,737,728	04/88	Nakamura et al.	329	110	
	BA 4,675,882	06/87	Lillie et al.	375	345	
	BB 4,584,715	04/86	Baars et al.	455	302	
	BC 4,241,451	12/80	Maixner et al.	455	202	
	BD 3,992,616	11/76	Acker	455	318	
	BE 3,961,262	06/76	Gassmann	325	345	

Examiner:

M. HeltzerDate Considered: 4/7/06

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 Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicants.

**Form PTO-1449 (Modified)****Page 3 of 5****List of Patents and Publications For  
Applicant's Information Disclosure  
Statement**Serial No.: 10/645,375Applicant(s): Edwin A. SuominenGroup: 2617Filed: August 25, 2003

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**FOREIGN PATENT DOCUMENTS**

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Examiner Initials	Document Number	Date	Country	Class	Subclass	Translation Yes / No
SJ	BF 0 651 522 A1	05/95	EPO	H04B	01/26	
	BG 0 351 156 B1	03/90	EPO	G01S	5/14	
	BH 0 508 401 A2	04/92	EPO			
	BI 0 595 277 A1	10/93	EPO			Yes
	BJ 0 602 394 A2	11/93	EPO			
	BK WO 94/10756	05/94	PCT			
	BL WO 94/29948	12/94	PCT			

Examiner: eRhnwtsDate Considered: 4/3/06

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Serial No.: 10/649,305  
 Applicant(s): Edwin A. Suominen  
 Group: 2617  
 Filed: August 25, 2003

**OTHER ART**

Examiner <u>SP</u>	Initials	<u>Author, Title, Date, Pertinent Pages, Etc.</u>
	BM	W. Baumberger, "A Single-Chip Image Rejecting Receiver for the 2.44 GHz Band Using Commercial GaAs-MESFET-Technology," in <u>IEEE Journal of Solid-State Circuits</u> , Vol. 29, No. 10, October 1994, pp. 1244-1249.
	BN	T. Okanobu et al., "An Advanced Low Power Radio 1 Chip IC," in <u>IEEE Transactions on Consumer Electronics</u> , Vol. 40, No. 4, November 1994, pp. 842-851.
	BO	D. Yamazaki et al., "A Complete Single Chip AM Stereo/FM Stereo Radio IC," in <u>IEEE Transactions on Consumer Electronics</u> , Vol. 40, No. 3, August 1994, pp. 563-569.
	BP	R. van Gils et al., "2.5 Gbit/s CPFSK System with Low Central IF," in <u>Electronics Letters</u> , Vol. 30, No. 14, July 1994, pp. 1153-1154.
	BQ	A. Abidi, "Radio-Frequency Integrated Circuits for Portable Communications," in <u>IEEE 1994 Custom Integrated Circuits Conference</u> , May 1994, pp. 151-158.
	BR	G. Jacobsen, "Low IF Quadrature Optical High Sensitivity ASK Receivers," in <u>Electronics Letters</u> , Vol. 30, No. 13, June 1994, pp. 1026-1028.
	BS	C. Demeure, "A Portable HF Transceiver with Digital IF," in <u>Fifth International Conference on HF Radio Systems and Techniques</u> , July 1991, pp. 290-294.
	BT	D. Ehrhardt and T. Benkner, "Digital TV Receiver with a Low IF," in <u>IEEE Transactions on Consumer Electronics</u> , Vol. 39, No. 3, August 1993, pp. 331-339
	BU	T. Okanobu, "Advanced Low Voltage Single Chip Radio IC," in <u>IEEE Transactions on Consumer Electronics</u> , Vol. 38, No. 3, August 1992, pp. 465-475.
	BV	B. Henderson and J. Cook, "Image-Reject and Single-Sideband Mixers," <u>WI Tech-Note</u> , Vol. 12, No. 3, May/June 1985.
	BW	"Low Cost RF Modem," <u>IBM Technical Disclosure Bulletin</u> , September 1986, pp. 1511-1513.
	BX	J. Crols and M. Steyaert, "An Analog Integrated Polyphase Filter for a High Performance Low-IF Receiver," in <u>Proc. VLSI Circuits Symposium</u> , Kyoto, June 1995, pp. 87-88.
	BY	J. Crols and M. Steyaert, "Low-IF Topologies for High-Performance Analog Front Ends of Fully Integrated Receivers," in <u>IEEE Transactions on Circuits and Systems</u> , Vol. 45, No. 3, March 1998, pp. 269-282.

Examiner:

M. SteyaertDate Considered: 4/3/06

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**OTHER ART**

S3

BZ L. Larson (ed.), RF and Microwave Circuit Design for Wireless Communications, Artech House, Boston, pp. 52-55 (excerpt from Chapter by Asad A. Abidi, UCLA).

CA A. Fernandez-Duran, et al., Alcatel, "Zero-IF Receiver Architecture for Multistandard Compatible Radio Systems," 46<sup>th</sup> IEEE Vehicular Technology Conference, May 1996, pp. 1052-1056.

CB F. Oscarsson and A. Lindblad, National Defence Research Establishment, Sweden, "Wideband HF Receiver With Digital Quadrature Splitting," 1993, pp. 1267-1271.

CC PHILIPS SEMICONDUCTORS, Specification Sheet, "Image Rejecting Front-end for GSM Applications, UAA2072M."

CD J. Paez-Borrallo and F. Casaju Quiros, "Self Calibrating Low IF Digital Image Rejection Receiver For Mobile Communications" (believed presented at conference Sept. 10, 1996).

CE F. Casaju Quiros and J. Paez Borrallo; "A Low If Image Rejection Receiver For DECT, RACE Mobile Telecommunications Summit, Cascais, Portugal, Nov. 22-24, 1995, Vol. 1.

CF J. Crols, et al., "A Single-Chip 900 MHz CMOS Receiver Front-End with a High Performance Low-IF Topology," IEEE Journal of Solid-State Circuits, Vol. 30, No. 12, December 1995, pp. 1483-1492.

CG J. Wuorinen, "A Fully Integrated 900MHz CMOS Double Quadrature Downconverter," 1995 IEEE International Solid-State Circuits Conference, Digest of Technical Papers, Castine, ME, First Edition, February 1995, pp.137-138.

CH P. Gray, et al., "Future Directions in Silicon ICs for RF Personal Communications," Proceeding of the IEEE 1995 Custom Integrated Circuits Conference, Berkeley, CA, May 1-4, 1995, pp. 83-90.

CI R. Hawley, et al., "A 300 MHz Digital Double-Sideband to single-Sideband Converter in 1  $\mu$ m CMOS," IEEE Journal of Solid-State Circuits, Vol. 30, No. 1, January 1995.

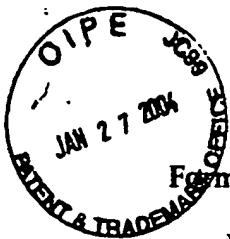
CJ J. Min, et al., "An All-CMOS Architecture for a Low-Power Frequency-Hopped 900 MHz Spread Spectrum Transceiver," IEEE 1994 Custom Intergrated Circuits Conference, Los Angeles, CA, pp. 379-382.

S8

Examiner:

Date Considered: 4/31/06

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## Form PTO-1449 (Modified)

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Serial No.: 10/649,305

Applicant(s): Edwin A. Suominen

Group: 2681 2617

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## U.S. PATENT DOCUMENTS

Examiner Initials	Document Number	Date	Name	Class	Subclass
SB	A 3,549,811	12/70	Borresen	179	15
	B 3,413,554	11/68	Yates et al.	325	17
	C 3,028,487	04/62	Losee	250	8
	D 2,725,467	11/55	Atwood	250	20
	E 2,658,138	11/53	Samuelson	250	20
	F 2,616,034	10/52	Alder	250	20
	G 2,606,285	08/52	Bataille et al.	250	20
	H 2,588,022	03/52	Loghlin	250	20
	I 2,557,329	06/51	Wild	178	19
	J 2,404,354	06/46	Atkins	250	6
	K 2,279,177	04/42	Plebanski	250	20
	L 2,220,689	11/40	Shore	178	44
	M 2,152,515	03/39	Wheeler	250	20
	N 2,140,115	12/38	Roberts	250	20
	O 2,041,040	05/36	Barden	250	20
	P 1,975,055	09/34	Weinerger et al.	178	6
SB	Q 1,878,614	09/32	Wheeler		

## FOREIGN PATENT DOCUMENTS

Examiner Initials	Document Number	Pub. Date	Country	Class	Subclass	Translation <sup>t</sup>
SB	R 585,907	02/47	GB			→

<sup>t</sup>Left blank if in English

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## U.S. PATENT DOCUMENTS

Examiner Initials	Document Number	Date	Name	Class	Subclass	Filing Date*
S3	A 5,737,035	04/98	Rotzoll	348	725	04/95

\*Provided only for patents issued less than one year before applicant's earliest claimed filing date. May not be actual §102(e) date.

## OTHER ART

Examiner Initials	Author, Title, Date, Pertinent Pages, Etc.
S3	B Kuhn, W. "Design of Integrated, Low Power, Radio Receivers in BiCMOS Technologies," PhD Dissertation dated "December, 1995."
	C Van Dooremolen W., et al. "Application Note AN192: A complete FM radio on a chip," Philips Semiconductors, dated "1991 Dec."
	D Steyaert, M., et al. "RF Integrated Circuits in Standard CMOS Technologies," undated.
	E Web Page Printout (excerpts, pp. 1, 22) "ESSCIRC '96," <a href="http://www.imec.be/esscirc/papers-96/author.htm">http://www.imec.be/esscirc/papers-96/author.htm</a> , indicating (see p. 22) Michiel Steyaert paper "RF Integrated Circuits in Standard CMOS Technologies" as part of ESSCIRC '96 proceedings.
S3	F Web Page Printout "ESSCIRC '96," <a href="http://www.imec.be/esscirc/papers-96/default.htm">http://www.imec.be/esscirc/papers-96/default.htm</a> , indicating ESSCIRC '96 date of 17-19 September 1996.

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**OTHER ART**

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Examiner Initials	Author, Title, Date, Pertinent Pages, Etc.
S3 A	Steyaert, M. and Crols J. "Analog Integrated Polyphase Filters," in Workshop on Advances in Analog Circuit Design (Eindhoven, Netherlands), March 29-31, 1994. Cited copy is from R.J. van de Plassche <i>et al.</i> (eds.), <u>Analog Circuit Design</u> , pp. 149-166, Copyright 1995, Kluwer Academic Publishers.

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**U.S. PATENT DOCUMENTS**

Examiner Initials	Document Number	Date	Name	Class	Subclass
<u>SB</u>	A 5,838,730	11/98	Cripps	375	272
	B 5,832,375	11/98	Leinsten, et al.	455	314
	C 5,722,040	02/98	Bjerde, et al.	455	76
	D 5,661,485	08/97	Manuel	342	13
	E 4,727,591	02/88	Manlove	455	182.2
	F 4,580,289	04/86	Enderby	455	314
	G 4,553,264	11/85	Hasegawa, et al.	455	189.1
	H 4,450,590	05/84	Lafferty, et al.	455	214
	I 4,353,132	10/82	Saitoh, et al.	455	315
	J 3,942,121	03/76	Bell, et al.	455	160.1
<u>SB</u>	K 3,835,384	09/74	Liff	455	158.3

**FOREIGN PATENT DOCUMENTS**

Examiner Initials	Document Number	Pub. Date	Country	Class	Subclass	Translation?
<u>SB</u>	L JP 7-283810	10/95	Japan	H04L	12/28	Y

*\*Left blank if in English*

**OTHER ART**

Examiner Initials	Author, Title, Date, Pertinent Pages, Etc.
<u>EB</u>	M "National Semiconductor LMX2240 Intermediate Frequency Receiver," product brochure, 1995.
<u>T</u>	N Ehrhardt, D. and Benkner, T. "Digital TV Receiver with a Low IF," in <u>IEEE Transactions on Consumer Electronics</u> , Vol. 39, No. 3; pp. 331-339; August, 1993.
<u>SB</u>	O Kasperkovitz, W.G. "FM Receivers for Mono and Stereo on a Single Chip," in <u>Philips Technical Review</u> , Vol. 41, No. 6, pp. 169-182; 1984.

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